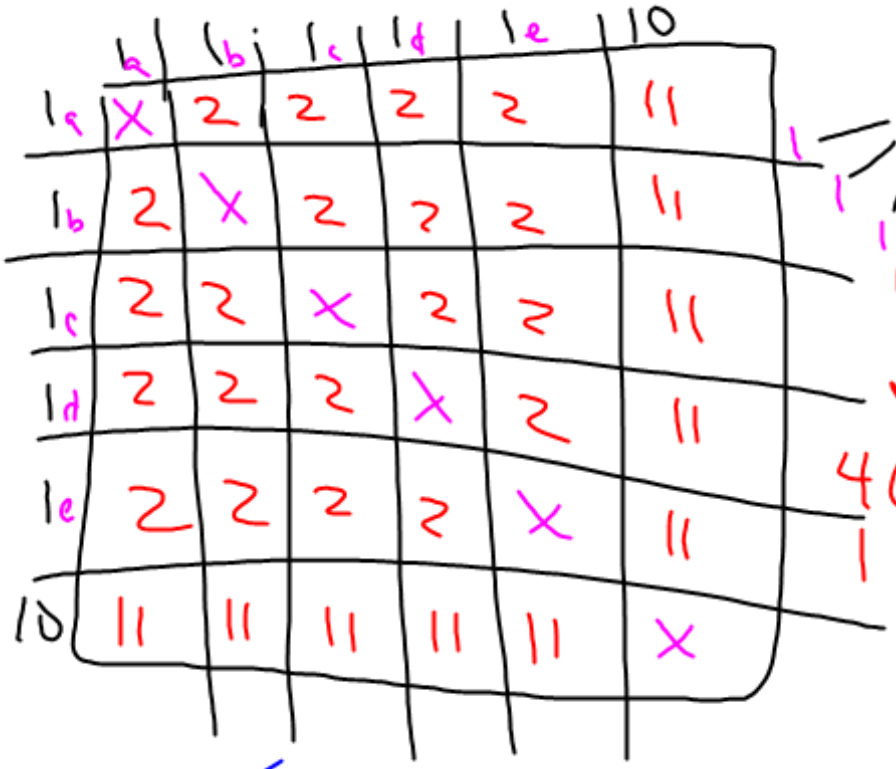
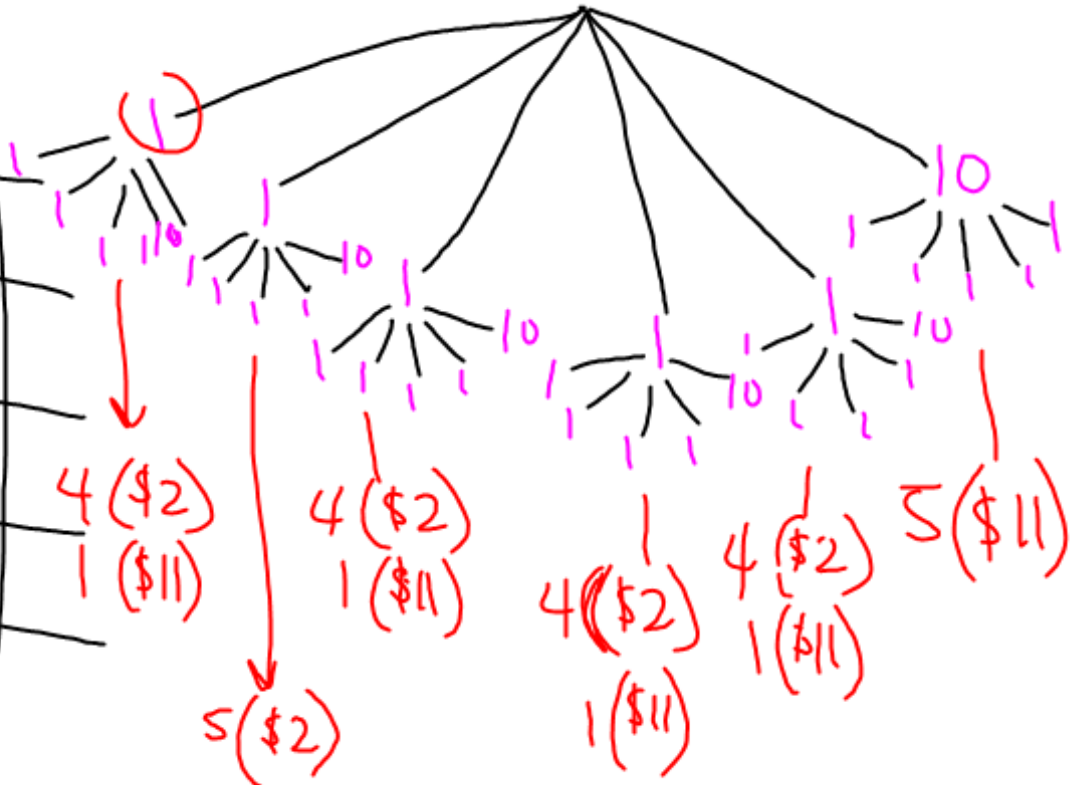




$\$2 - \frac{20}{30}(\text{prob.}) \times 2 = \frac{40}{30}(\text{exp value})$

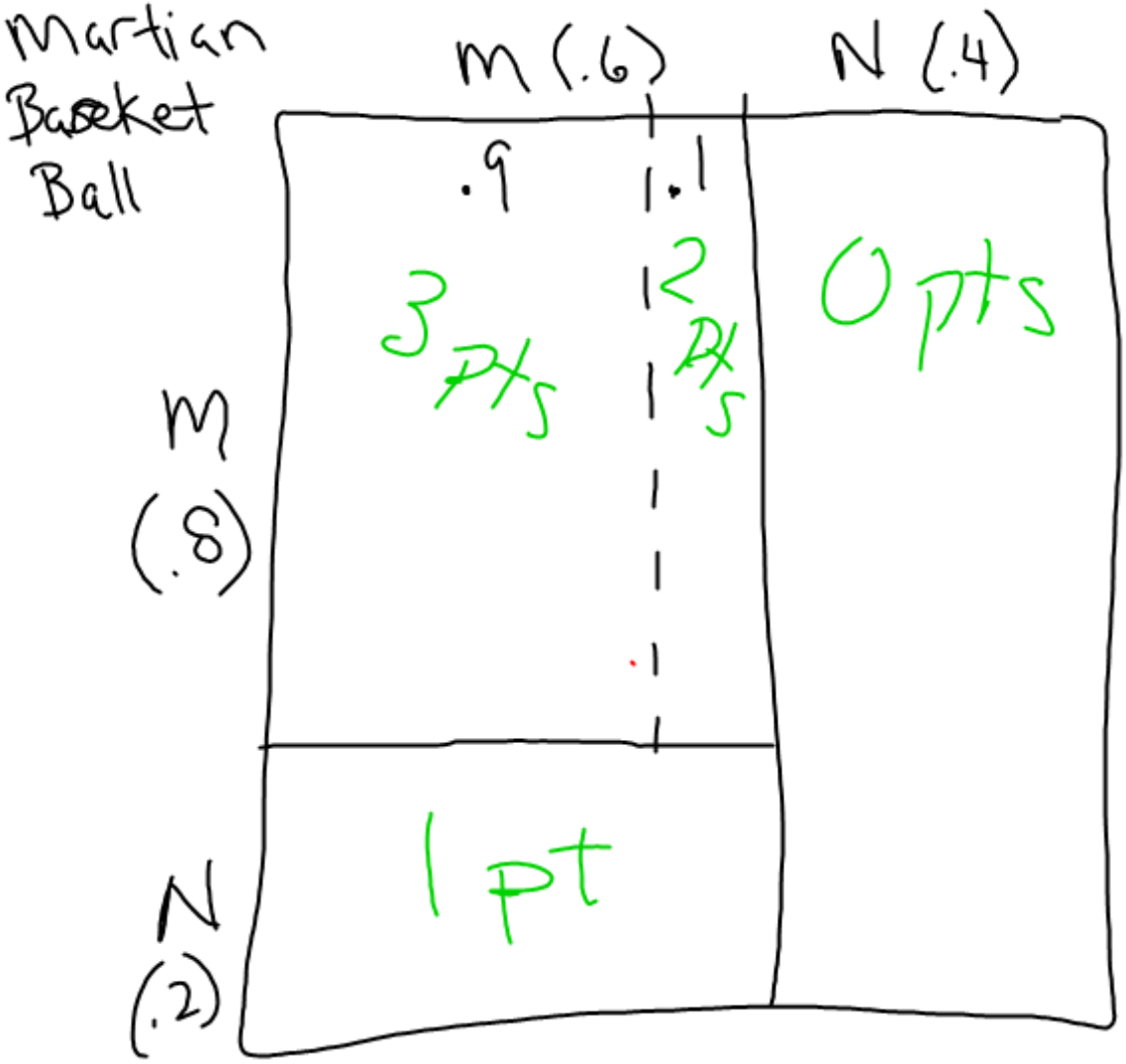
$\$11 = \frac{10}{30}(\text{prob}) \times 11 = \frac{110}{30}(\text{exp value})$

$\frac{150}{30}$ total exp value $\approx \$5$

10 ($11), 20 ($2)

$\$2 - \frac{20}{30}$, $\$11 - \frac{10}{30}$

Martian Basketball



exp value

0 pts - .4 x 0 = 0

.2(.6) =

1 pts - .12 x 1 = .12 +

.6(.8)(.1)

2 pts - .048 x 2 = .096 +

.6(.8)(.9)

3 pts - .432 x 3 = 1.296

1.52

expected value for entire game

or - average pts per shot

EXPECTED VALUE = PROBABILITY TIMES POINTS

$\frac{5}{6} \times 3\text{pt} = \frac{15}{6}$

$\frac{10}{15} \times 6\text{pt} = \frac{60}{15}$

$\frac{4}{9} \times 3\text{pt} = \frac{12}{9}$

} expected values

EXPECTED VALUE = PROBABILITY TIMES POINTS
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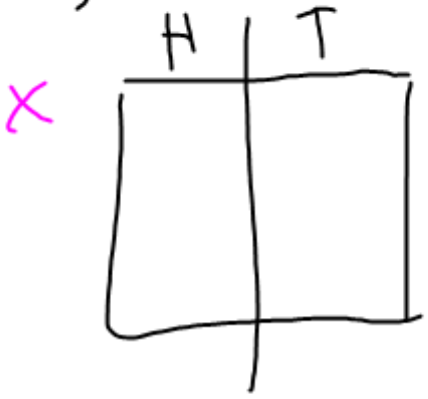
Draw a diagram to represent each situation & all possible outcomes

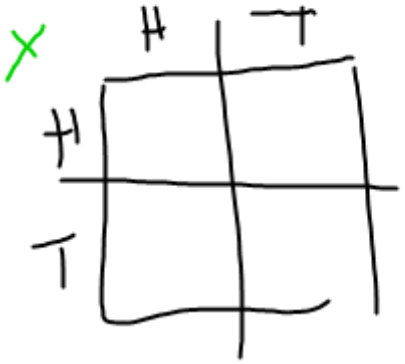
1) flip a coin once

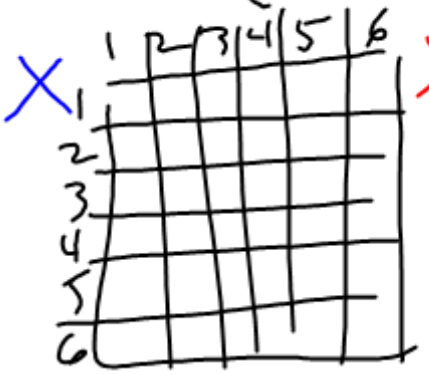
2) flip a coin twice

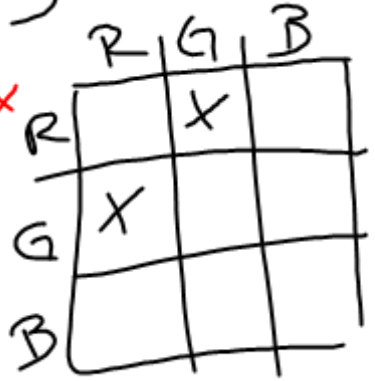
3) roll a dice twice

4) spin a spinner twice w/ 3 colors (R, G, B)









2/9

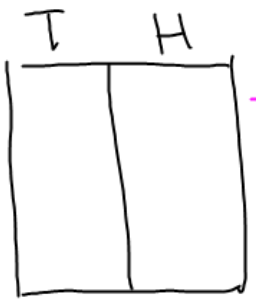
Find expected value for each possible outcome for each situation

1) flip a coin once where a head is worth 3 pts and a tails is worth 2 pts

2) flip a coin twice, w/ H & T receiving same pts as above

3) One & One game where prob of making first shot is 70% & second shot is 90%

#1

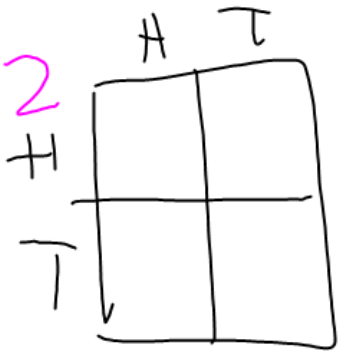


prob × pts = exp value

T - .5 × 2 = 1

H - .5 × 3 = 1.5

#2

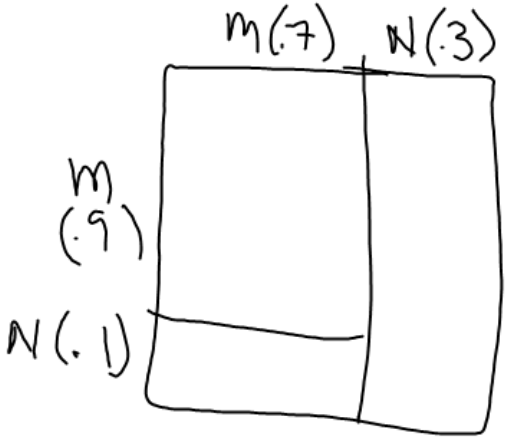


HH - .5(.5) × 6 = 1.5

HT - .5(.5) × 5 = 1.25

TH - .5(.5) × 5 = 1.25

TT - .5(.5) × 4 = 1



0 pts - .3 × 0 = 0

1 pt - .7(.1) × 1 = .07

2 pts - .9(.7) × 2 = 1.26

avg pts

In a one & one situation, Sara has a record of making 80% of her free throws. If she makes the first one, her record shows that she makes 60% of her second shots.

1) Draw a diagram to represent this situation

2) find the probability of her making 1, 2 & 0 shots

3) find her expected value for each outcome

4) find her total free throw shot expected value.